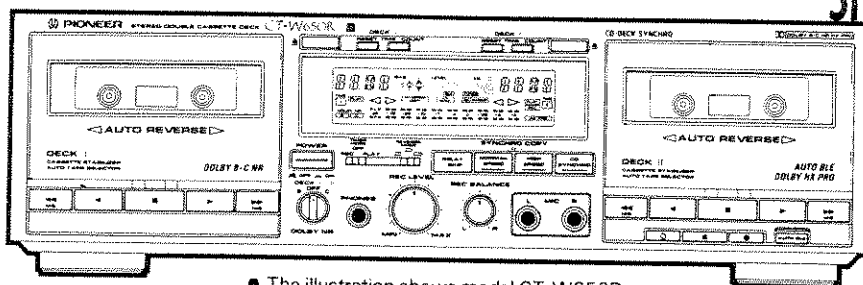


# Operating Instructions

STEREO DOUBLE CASSETTE DECK

# CT-W650R CT-W550R

SPARE PARTS MASTER



• The illustration shows model CT-W650R.

Thank you for buying this PIONEER product.

Please read through these operating instructions so you will know how to operate your unit properly. After you have finished reading the instructions, keep the manual in a safe place for future reference.

In some countries or regions, the shape of the power plug and power outlet may sometimes differ from that shown in the explanatory drawings. However, the method of connecting and operating the unit is the same.

**WARNING:** TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

## IMPORTANT NOTICE

The serial number for this equipment is located on the rear panel. Please write this serial number on your enclosed warranty card and keep it in a secure area. This is for your security.

### [For Canadian model]

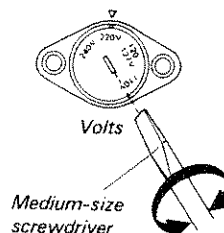
This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

### [Pour le modèle Canadien]

L'interférence, radioélectrique générée par cet appareil numérique de type B ne dépasse pas les limites énoncées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

*"This product complies with the Radio Interference requirements of the EC (European Community) Directive 87/308/EEC."*

## LINE VOLTAGE SELECTOR SWITCH



Only multi-voltage models are provided with this switch. U.S., Canadian, European, U.K., and Australian models are not with provided this switch.

Mains voltages in Saudi Arabia are 127V and 220V only. Never use this model with a 110V setting in Saudi Arabia.

The line voltage selector switch is on the rear panel. Before your model is shipped from the factory, this switch is set to the power requirements of the destination. Make sure that it is set properly before plugging the power cord into the AC outlet. If the voltage is not properly set, or if you move to an area where the voltage requirements differ, adjust the selector switch as follows.

1. Disconnect the power cord.
2. Use a medium-size screwdriver.
3. Insert the screwdriver into the groove on the voltage selector, and adjust so that the tip of the arrow points to the voltage value for your area.

## IMPORTANT 1



The lightning flash with arrowhead, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



**CAUTION:**  
TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**PIONEER®**  
The Art of Entertainment

## IMPORTANT 2

If the apparatus is fitted with AC mains power outlet(s), see REAR PANEL FACILITIES for convenient connection of additional Hi-Fi component(s). Make all connections to the AC outlet(s) and the signal terminals first. Connect the plug to the wall socket last (make sure that the power switch is off.)

## FOR USE IN THE UNITED KINGDOM

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral  
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured marking identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Do not connect either wire to the earth terminal of a three pin plug.

Equipment sold in the U.K. is not supplied with a power plug.

# SAFETY INSTRUCTIONS

**READ INSTRUCTIONS** — All the safety and operating instructions should be read before the appliance is operated.

**RETAIN INSTRUCTIONS** — The operating instructions should be retained for future reference.

**HEED WARNING** — All warnings on the appliance and in the operating instructions should be adhered to.

**FOLLOW INSTRUCTIONS** — All operating and use instructions should be followed.

**WATER AND MOISTURE** — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.

**LOCATION** — The appliance should be installed in a stable location.

**WALL OR CEILING MOUNTING** — The appliance should not be mounted to a wall or ceiling.

**VENTILATION** — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

**HEAT** — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

**POWER SOURCES** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

**POWER-CORD PROTECTION** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

**POLARIZATION** — If your purchased product is provided with a polarized power plug, please read the following instructions. This product is equipped with a polarized alternating current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

**CLEANING** — The appliance should be cleaned only with a polishing cloth or a soft dry cloth. Never clean with furniture wax, benzene, insecticides or other volatile liquids since they may corrode the cabinet.

**POWER LINES** — An outdoor antenna should be located away from power lines.

**NONUSE PERIODS** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

**OBJECT AND LIQUID ENTRY** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

**DAMAGE REQUIRING SERVICE** — The appliance should be serviced by a Pioneer authorized service center or qualified service personnel when:

- The power-supply cord or the plug has been damaged.
- Objects have fallen, or liquid has been spilled into the appliance.
- The appliance has been exposed to rain.
- The appliance does not appear to operate normally or exhibits a marked change in performance.
- The appliance has been dropped or the enclosure damaged.

**SERVICING** — The user should not attempt to service the appliance beyond that described in the operating instructions. For all other servicing, contact the nearest Pioneer authorized service center.

**OUTDOOR ANTENNA GROUNDING** — If an outside antenna is connected to the antenna terminal, be sure the antenna system is grounded so as to provide some protection against voltage surges and built up static charges.

In the U.S.A. section 810 of the National Electrical Code, ANSI/NFPA No. 70-1984, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Fig. A.

**CART** — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



NEC — NATIONAL ELECTRIC CODE

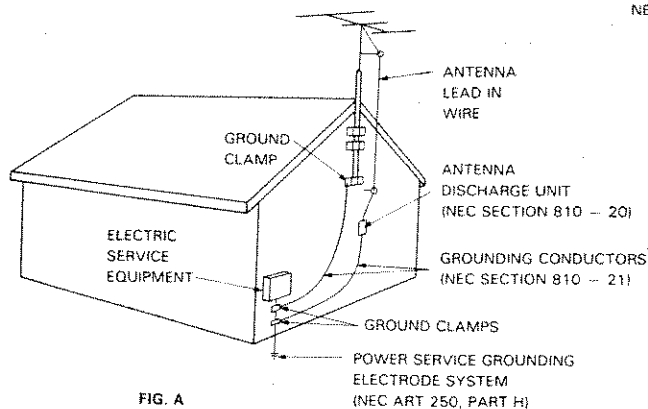


FIG. A

## INFORMATION TO USER [FOR U.S. MODEL]

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient the receiving antenna
- relocate this equipment with respect to the receiver
- move this equipment away from the receiver
- plug this equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio-TV Interference Problems".

This booklet is available from the US Government Printing Office, Washington, D.C., 20402. Stock No. 004-000-00345-4.

The above instructions apply only to units which will be operated in the United States.

# CONTENTS

|                              |    |                                                    |    |
|------------------------------|----|----------------------------------------------------|----|
| INSTALLATION.....            | 3  | RECORDING (Deck II only) .....                     | 12 |
| MAINTENANCE.....             | 3  | RECORDING USING A MICROPHONE (CT-W650R only) ..... | 12 |
| HANDLING CASSETTE TAPES..... | 4  | RECORDING MUTE.....                                | 12 |
| CONNECTIONS.....             | 5  | AUTO BLE TUNING (CT-W650R only) .....              | 13 |
| FRONT PANEL FACILITIES.....  | 6  | TAPE COPYING .....                                 | 13 |
| PLAYBACK.....                | 10 | RECORDING AND PLAYBACK USING AN AUDIO TIMER.....   | 14 |
| SINGLE PLAYBACK.....         | 10 | CD-DECK SYNCHRO RECORDING .....                    | 15 |
| BLANK SKIP.....              | 10 | TROUBLESHOOTING .....                              | 16 |
| RELAY PLAYBACK .....         | 10 | SPECIFICATIONS .....                               | 18 |
| MUSIC SEARCH.....            | 11 |                                                    |    |

## INSTALLATION

When installing the deck, avoid locations with high temperatures or humidity, and make sure that the deck receives adequate ventilation.

- Do not install the deck in locations subject to direct sunlight, or near a space heater or other heating device, as this may cause damage to the finish or the internal parts.
- Malfunctions may also result if the deck is installed in an excessively humid or dusty location. Do not install the deck next to kitchen counters or other locations subject to oily smoke or humidity.
- If the deck is placed directly on top of an amplifier, it may pick up humming or other noise. Also, if the amplifier generates a large amount of heat, the deck may malfunction.
- If the deck is located near a television set, it may pick up interference noise, which will be recorded as a whistling sound on the tape. If this happens, move the deck further away from the television set or turn the television set off when operating the deck.
- Do not place a cloth over the deck, or block the ventilation slots in any way. The ventilation slots on this deck are necessary to keep internal parts cool. If they are blocked, the deck may malfunction.

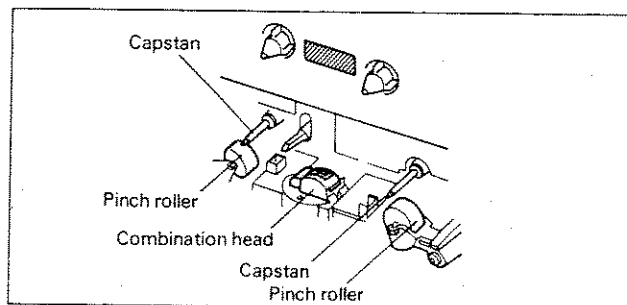
## CONDENSATION (DEW)

When the deck is moved from a cold location to a warm location, or when the temperature of the room changes suddenly, condensation may form on the surface of the mechanical parts, and adversely affect the performance of the deck. If this occurs, wait for about 1 hour to allow the deck to adjust to the room temperature.

## POWER-CORD CAUTION

Handle the power cord by the plug. Do not pull out the plug by tugging the cord and never touch the power cord when your hands are wet as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, etc., on the power cord, or pinch the cord. Never make a knot in the cord or tie it with other cords. The power cords should be routed such that they are not likely to be stepped on. A damaged power cord can cause fire or give you an electrical shock. Check the power cord once in a while. When you find it damaged, ask your nearest PIONEER authorized service center or your dealer for a replacement.

## MAINTENANCE



## CLEANING THE HEADS, PINCH ROLLERS AND CAPSTANS

The heads, pinch rollers and capstans are likely to get dirty quite easily. If these parts, particularly the heads; get dirty, the high frequency components of a recording will not be reproduced and the stereo balance will be impaired, resulting in a deterioration of the playback sound. It is therefore recommended that the head section be cleaned regularly.

1. Set the POWER switch to OFF (■).
2. Press the EJECT button to open the cassette door.
3. Dip a cleaning swab in cleaning fluid and use it to wipe the heads, capstans and pinch rollers.

### NOTE:

After cleaning the head section, do not load a tape until the cleaning fluid has dried completely (about 2 or 3 minutes).

## DEMAGNETIZING THE HEADS

After using the cassette deck for a period of time, the heads will become magnetized. The same effect will occur if a magnetized screwdriver, magnet, or other magnetized object is brought too close to the heads. When the heads become magnetized, high frequency sounds will be lost during recording or playback, and interference noise may also occur. The heads should be regularly demagnetized with a head demagnetizer, which can be purchased at most audio stores.

When demagnetizing the heads, make sure that the POWER switch of the cassette deck is set to OFF (■). For detailed instructions, refer to the operating instructions of the head demagnetizer.

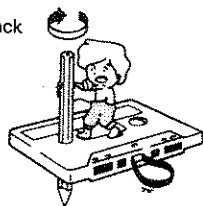
## CLEANING THE FRONT PANEL

Clean the deck regularly with a soft cloth. If the front panel gets dirty or greasy, clean it with a damp cloth and mild soap, then wipe it dry with a soft cloth. Never use volatile cleaners like thinners, benzine or alcohol because they will damage the panel finish.

# HANDLING CASSETTE TAPES

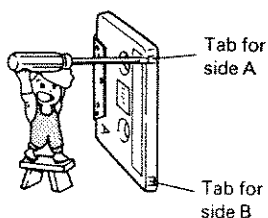
**A**

Turn pencil to  
remove tape slack



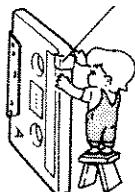
**B**

For erasure prevention  
remove



**C**

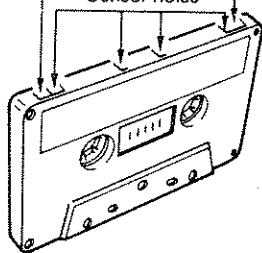
Cover with  
adhesive tape



**D**

Erasure prevention tabs

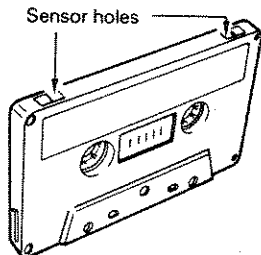
Sensor holes



Metal tape

**E**

Sensor holes



Chrome (CrO<sub>2</sub>) tape

## CHECK CASSETTE BEFORE USE

Check the following items before loading a cassette tape:

### Is the tape loose, or is some of the tape outside the cassette?

If some of the tape is loose or projecting outside the cassette shell, the tape may not properly enter between the capstan and pinch roller. This will prevent the tape from being supplied properly, and may even damage the tape itself. In such cases, insert a pencil into the reel hole and take up the slack (Fig. A).

Some cassette tapes come with a plastic or thick paper stopper to prevent the tape from becoming slack. Remove this stopper when loading the cassette and replace it after using the cassette.

### Are the accidental erasure prevention tabs intact?

These tabs allow you to prevent important recordings from being erased accidentally. When the tab on the cassette shell is removed (Fig. B), it is not possible to activate the recording function, even by pressing the recording (●) button, so valuable recordings will not be erased by mistake.

To re-record on a cassette whose tab has been removed, simply stick a piece of doubled adhesive tape over the hole (Fig. C).

When using metal or chrome (CrO<sub>2</sub>) tapes, be careful not to block the sensor holes with the tape (Fig. D, Fig. E). If the holes are blocked, the automatic tape selector mechanism will not operate correctly.

#### NOTES:

- The accidental erasure tab for each side is the one located on the top left when the side that you want to protect is facing you.
- Do not use a magnetized screwdriver to remove the tab.

## AUTOMATIC TAPE SELECTOR FUNCTION

This cassette deck is equipped with an automatic tape selector function which utilizes the sensor holes on the tape cassette to determine the type of tape being used.

The deck is then set to match the tape recording bias and equalization.

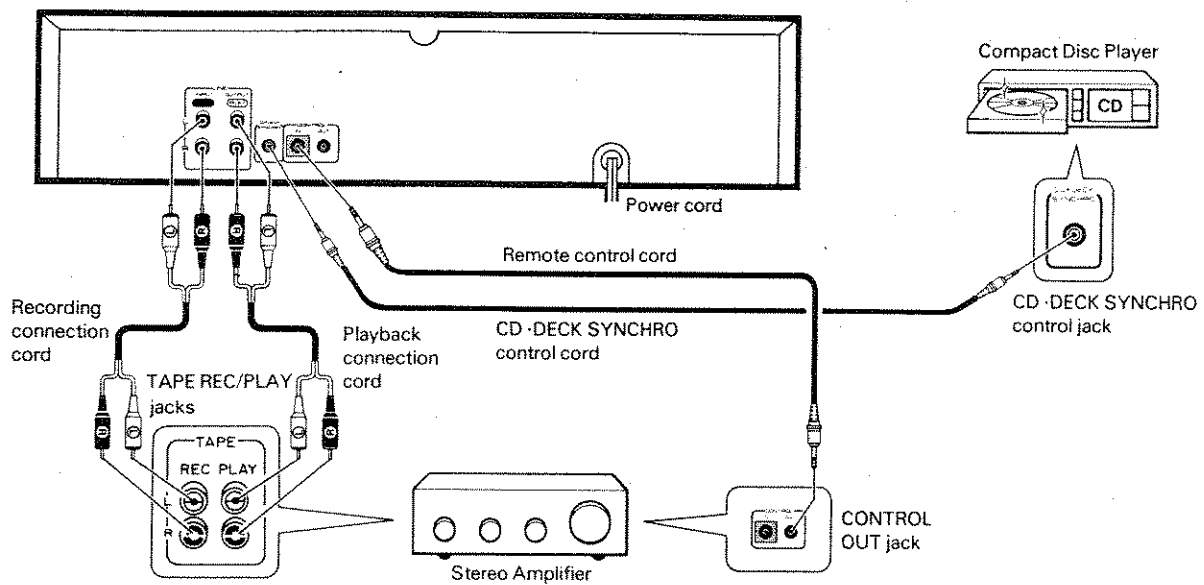
#### NOTES:

- When using metal tapes, make sure that the tapes have sensor holes.
- Make sure that the sensor holes on the cassette are not blocked; otherwise the tape selector mechanism will not function properly.
- Do not use FeCr tapes.

## TIPS ON CASSETTE TAPES

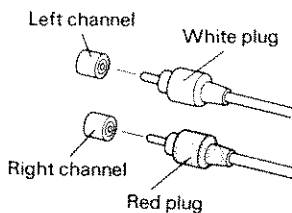
- Leader tape (which cannot be recorded on) is provided at the beginning of a cassette tape. Let the tape run for about 5 seconds before starting to record, to allow the leader tape to clear the recording head.
- Do not leave a cassette tape exposed to the environment. Store the cassette in its case after use so that dust and dirt do not adhere to the tape, and so the tape will not get slack. Store tapes in a location free from magnetism, dust, dirt, oil, heat and humidity.
- Because C-120 tapes are very thin, they can easily jam in the pinch rollers and capstan, and they often are subject to other problems such as irregular winding. Try not to use them with this deck.
- If cassette tapes are irregularly wound, the tape may get jammed in the rollers. This can cause damage to both the tape and the deck itself. If you are not certain whether the tape is wound evenly, fast forward or rewind the tape from beginning to end.

# CONNECTIONS



- Read through the operating instructions of the stereo components which you intend to connect to this deck.
- Turn the power on only after making all the connections.
- Make sure that all of the connection plugs are inserted securely. Improper connections may generate noise.

## CONNECTING THE RECORDING AND PLAYBACK CORDS



Connect the TAPE jacks of your amplifier to the LINE jacks of the cassette deck. Be sure to connect the REC (INPUT) jacks of the deck to the recording (output) jacks of the amplifier, and the PLAY (OUTPUT) jacks of the deck to the play (input) jacks of the amplifier.

- Connect the plugs properly:  
Left channel — White plug  
Right channel — Red plug

## CONNECTING THE POWER CORD

Insert the power cord of the cassette deck into the accessory AC outlet of your amplifier, or into a normal household outlet.

- When performing unattended recording or wake-up playback, consult the operating instructions of your audio timer for details on power cord connections.

## PIONEER SYSTEM REMOTE CONTROL

### CONTROL IN jack

Use the enclosed Remote Control Cord to connect this jack to the CONTROL OUT jack of another component which bears the  mark to indicate that it is equipped with PIONEER System Remote Control. You will then be able to operate this deck using the other component's PIONEER system remote control unit. If the remote control unit does not have separate buttons for Deck I and Deck II, or a selection button to choose Deck I or Deck II; the buttons will only operate Deck II. To operate Deck I with a remote control unit which was not designed for double deck cassette decks; see page 7.

### CONTROL OUT jack

Intermediary jack which outputs signals from the CONTROL IN jack of this deck to the input jack of another component. Connect this jack to the CONTROL IN jack of another component compatible with PIONEER System Remote Control.

## CD-DECK SYNCHRO RECORDING

- CD-DECK SYNCHRO recording can be carried out when this deck is connected to a PIONEER CD player equipped with a CD-DECK SYNCHRO control jack.

### Connection

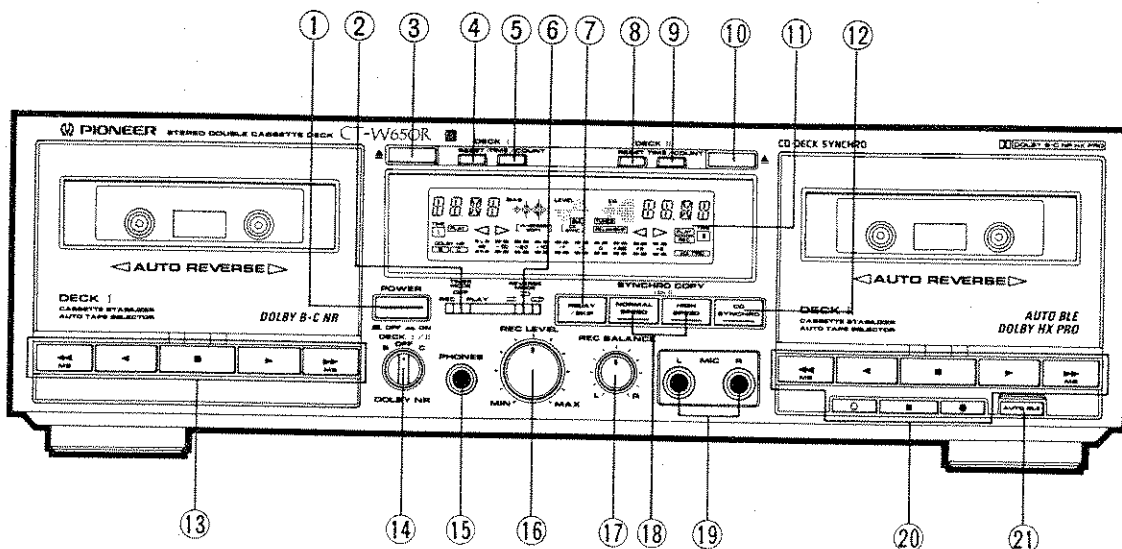
Connect the CD-DECK SYNCHRO control jack of the deck to the CD-DECK SYNCHRO control jack of the CD player using the enclosed CD-DECK SYNCHRO control cord.

### NOTES:

- Keep the input and output jacks connected between the amplifier and the deck. Otherwise, CD-DECK SYNCHRO recording cannot be carried out.
- Even when the CD player is connected to the amplifier with an optical fiber cable, connect the CD player to either the amplifier or this deck with pin plug input and output cords.

## FRONT PANEL FACILITIES

The illustration shows model CT-W650R.



① Power switch (POWER ON / OFF)

② Timer mode switch (TIMER MODE/REC/OFF/PLAY)

③ Deck I eject button ( )

- If the tape is moving (recording, playback, tape winding, etc.), press the stop ( ) button before pressing this button.

### NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject ( ) button.

④ Deck I counter reset button (RESET)

⑤ Deck I counter mode button (TIME/COUNT)

⑥ Reverse mode switch (REVERSE MODE)

⑦ Relay/Skip button (RELAY/SKIP)

⑧ Deck II counter reset button (RESET)

⑨ Deck II counter mode button (TIME/COUNT)

⑩ Deck II eject button ( )

- If the tape is moving (recording, playback, tape winding, etc.), press the stop ( ) button before pressing this button.

### NOTE:

If the power is turned off while the tape is moving, the cassette door may remain locked. In this case, turn the power on before pressing the eject ( ) button.

⑪ Function display

⑫ CD-DECK SYNCHRO recording button (CD SYNCHRO)

⑬ Deck I operation buttons

- Fast reverse/Music search
- Fast forward/Music search
- Forward playback
- Stop
- Reverse playback

⑭ Dolby\* NR switch (DOLBY NR B/OFF/C)

\*

- Dolby noise reduction and HX Pro headroom extension manufactured under license from Dolby Laboratories Licensing Corporation. HX Pro originated by Bang & Olufsen.
- "DOLBY", the double-D symbol and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

⑮ Headphones jack (PHONES)

⑯ Recording level control (REC LEVEL)

⑰ Recording balance control (REC BALANCE)

⑱ Synchro copy buttons (SYNCHRO COPY I II, NORMAL SPEED/HIGH SPEED)

- NORMAL SPEED: Copying at normal speed.
- HIGH SPEED: Copying at twice normal speed.

⑲ Microphone jacks (MIC L,R, CT-W650R only)

⑳ Deck II operation buttons

- Fast reverse/Music search
- Fast forward/Music search
- Forward playback
- Stop
- Reverse playback
- Recording mute
- Pause
- Recording

㉑ Deck II AUTO BLE button (CT-W650R only)

**REVERSE MODE SWITCH (REV MODE)**

There are three settings:

**One way mode  position**

When the switch is set to this position, playback or recording (Deck II only) is performed on one side of the tape only. When the tape reaches the end of the side, it stops automatically (auto stop function).

**Two way mode  position**

When the switch is set to this position, playback or recording (Deck II only) can be performed on both sides of the tape. When the tape reaches the end of the first (forward) side, its direction is automatically reversed, and playback or recording continues on the other (reverse) side. When it reaches the end of the reverse side, the tape stops automatically (auto stop function). If playback or recording is started from the reverse side, the tape will stop when it reaches the end of the side.

**Repeat mode  position**

When the switch is set to this position for playback, both sides of the tape are played back repeatedly until the stop (■) button is pressed, or until the tape has been played completely 8 times (16 sides). If any of the operation buttons are pressed during playback, the repeat mode will be reset, and the tape will be played 8 more times (16 sides) when playback is restarted.

When the switch is set to this position for recording (Deck II only), both sides are recorded and then the tape stops, as described above for the two way mode.

**OPERATION OF DECK I WITH A REMOTE CONTROL UNIT NOT DESIGNED FOR DOUBLE DECKS (System Remote Control)****Selecting Deck I**

In order to operate Deck I with the remote control unit, adjust the deck as follows: With the power off, press and hold the stop (■) button of Deck I, and turn the power on. Continue to hold the stop (■) button for approximately 5 seconds. Deck I can now be operated using the remote control unit, but Deck II cannot.

**Switching to Deck II**

To restore remote control operation to Deck II, press the stop (■) button of Deck II while Deck II is in stop mode. Deck II can now be operated using the remote control unit. Remote control operation can be switched back and forth between Deck I and Deck II by pressing the stop (■) button of the desired deck while it is in stop mode.

**NOTE:**

If the power is turned off, or if a power failure or a sudden change in the power supply (caused by lightning, etc.) occurs, the deck is reset to its original state. Only Deck II can be operated by remote control. To restore operation to either deck, repeat the above procedure from the beginning.

**DOLBY NR AND HX PRO****■ Dolby NR Systems**

Dolby NR systems are designed to reduce the amount of tape hiss, mainly in the treble components. During recording, the high-pitched pi-nissimo sounds which are most characteristic of audible noise are boosted, and during playback, only these boosted sections are attenuated, so that the sound is returned to normal. As a result, the noise is attenuated by an amount equal to the boosting in the treble range. The Dolby B-type NR system reduces noise in the treble range, cutting tape hiss and expanding the dynamic range. The Dolby C-type NR system is even more effective in reducing noise, as reduces noise from the mid-range on.

**NOTE:**

When a tape has been recorded using the Dolby B-type or C-type NR system, make sure that the DOLBY NR switch is set to the same position during playback.

**■ Dolby HX PRO Headroom Extension System**

The DOLBY HX PRO system controls the bias current during recording and maintains it at the optimal level based on the amount of high frequency components in the music signal. It therefore provides excellent recording quality even when recording signals from digital sources, which contain a large amount of high-frequency components. To guarantee optimal results, the HX PRO system is activated automatically when recording begins. Since this system controls the quality of the recording itself, the clarity of the sound will be maintained even when the tapes are played back on another deck which does not contain the HX PRO Headroom Extension System.

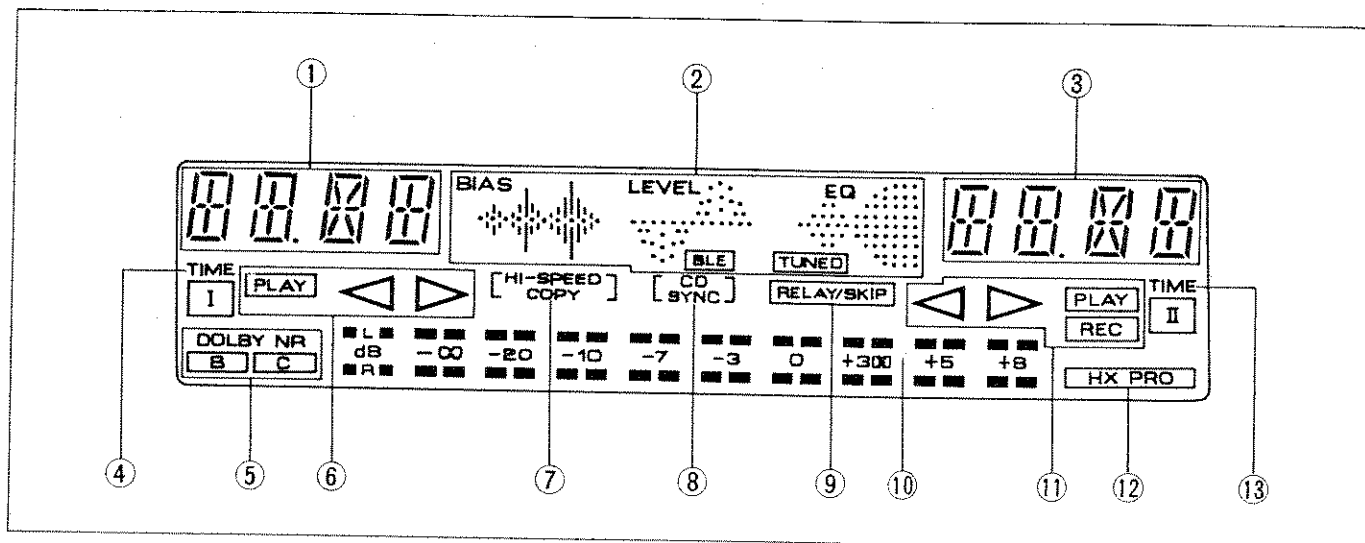
**AUTO BLE (Deck II of CT-W650R only)**

With commercially available cassette tapes, sensitivity and frequency characteristics might differ slightly, even though the same sound adjustment is set. To maximize tape characteristics, and make a recording which reproduces the original sound signal as precisely as possible, optimum recording level (sensitivity) and equalizer values must be set for each tape. In many conventional decks, a standard value is set for all standard tapes, despite the subtle differences between individual tapes. It is very difficult to fine tune the bias and sensitivity manually, based on the recorded sound; and such adjustment is even harder on a 2-head deck, where the recorded sound cannot be monitored as it is being recorded.

The AUTO BLE on this deck automatically adjusts bias, level (sensitivity) and equalizer by using a microprocessor to set the optimum recording characteristics accordingly for each tape.

## FRONT PANEL FACILITIES

### FUNCTION DISPLAY



#### ① Deck I counter indicator

Normally the tape number or time counter is displayed (see page 9).  
Flashes for 4 seconds after the power is turned on.

#### ② AUTO BLE indicator (CT-W650R only)

• See page 13.

#### ③ Deck II counter indicator

Normally the tape number or time counter is displayed (see page 9).  
Flashes for 4 seconds after the power is turned on.  
During AUTO BLE tuning, indicates BIAS, LEVEL, EQ, or Err (see page 13).

#### ④ Deck I TIME counter indicator

Lights during time counter mode.

#### ⑤ DOLBY B/C NR indicator

#### ⑥ Deck I tape transport mode indicators

• See page 9.

#### ⑦ Copy indicators

COPY: Copying at normal speed.  
HI-SPEED COPY: Copying at twice normal speed.

#### ⑧ CD-DECK SYNCHRO indicator (CD SYNC)

Lights when CD-DECK SYNCHRO recording from a CD player is being carried out.

#### ⑨ RELAY/SKIP indicator

Lights when the RELAY/SKIP button is pressed to enter relay playback/blank skip mode.

#### ⑩ Level meter

Holds peak for about 1.2 seconds.  
The  mark beside the +3dB mark indicates the Dolby NR system reference level.

#### ⑪ Deck II tape transport mode indicators

• See page 9.

#### ⑫ Dolby HX Pro indicator (HX PRO)

#### ⑬ Deck II TIME counter indicator

Lights during time counter mode.

## TAPE TRANSPORT MODE INDICATORS



These indicators display the current tape transport mode. The chart below shows the meaning of each of these indicators. The indicators for Deck I and Deck II differ only in the location of the PLAY and REC indicators (Deck I - left, Deck II - right).

## For both Decks I and II

Flashing rapidly

|                      | Forward mode | Reverse mode |
|----------------------|--------------|--------------|
| Stop                 |              |              |
| Playback             | <b>PLAY</b>  | <b>PLAY</b>  |
| Fast forward         |              |              |
| Fast reverse         |              |              |
| Forward music search | <b>PLAY</b>  | <b>PLAY</b>  |
| Reverse music search | <b>PLAY</b>  | <b>PLAY</b>  |

## For Deck II only

Flashing slowly

|                   | Forward mode | Reverse mode |
|-------------------|--------------|--------------|
| Playback pause    | <b>PLAY</b>  | <b>PLAY</b>  |
| Recording         | <b>REC</b>   | <b>REC</b>   |
| Recording standby | <b>REC</b>   | <b>REC</b>   |
| Recording mute    | <b>REC</b>   | <b>REC</b>   |

## TAPE COUNTER MODE

## COUNTER MODE button

Press the button to alternate between counter modes.

Tape counter — Time counter

## ■ Tape counter

Separate counters are provided for Deck I and II. The number of the counter increases/decreases as the tape runs. During recording or playback, jot down the tape counter reading at key points. This makes it easy to locate these points later on.

## ■ Time counter

- This counter indicates the elapsed time of recording or playback. It is activated when recording or playback starts. During fast forwarding/reversing, the counter automatically switches to tape counter mode.
- The time counter only displays the duration of recording or playback. When fast forward, fast reverse, or music search is selected, the counter switches automatically from time counter mode to tape counter mode. When recording or playback resumes, the counter returns to time counter mode.

## • Tape counter indicator

## • Time counter indicator

## RESET button

Press this button to reset the tape counter to 0000, or to reset the time counter to 00.00.

## Counter indicator during music search

Plus sign

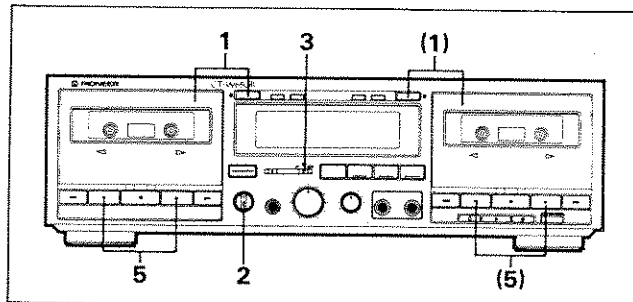
Minus sign

- A plus sign (+) appears during music search in the forward direction.
- A minus sign (—) appears during music search in the reverse direction.

The last two digits of the counter indicator show the number of selections to be skipped. If three selections are to be skipped, for example, it shows "P+03" initially. The number then decreases by 1 each time a selection is skipped ("P+02" — "P+01" etc.). When the deck resumes playback, the normal tape counter reappears.

# PLAYBACK

## SINGLE PLAYBACK (Either Deck I or Deck II)



1. Load a prerecorded tape in Deck I or II.
2. Set the DOLBY NR switch.
  - Always set the switch to the same position that was used for recording.
3. Set the REVERSE MODE switch (see page 7).
4. Set the stereo amplifier for tape playback.
5. Press the playback (▶ or ◀) button of either Deck I or II.

### To stop playback temporarily (Deck II only)

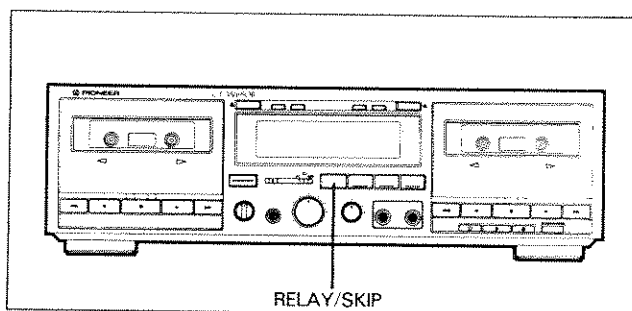
Press the pause (■) button.

- To resume playback, either press the pause (■) button again, or press the playback (▶ or ◀) button.

### To stop playback

Press the stop (■) button.

## BLANK SKIP

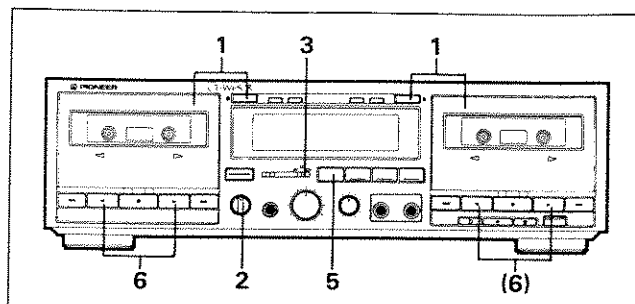


This function allows you to skip blank (unrecorded) portions of the tape during playback.

Press the RELAY/SKIP button to select the blank skip function. The RELAY/SKIP indicator lights.

- When this mode is selected, if the deck encounters a blank portion of tape more than 15 seconds in length, it will fast forward the tape until it encounters another recorded portion, and resume playback from that point.

## RELAY PLAYBACK



When relay playback mode is selected, continuous playback can be performed. When the tape in one deck reaches the end and stops, the other deck will automatically begin playback.

1. Load prerecorded tapes in Deck I and Deck II.
  - Make sure that both tapes have been recorded using the same Dolby NR setting.
2. Set the DOLBY NR switch.
  - Always set the switch to the same position that was used for recording.
3. Set the REVERSE MODE switch (see page 11).
4. Set the stereo amplifier for tape playback.
5. Press the RELAY/SKIP button to select the blank skip function. The RELAY/SKIP indicator lights.
6. Press the playback (▶ or ◀) button of the deck that will start to play first.
  - When the tape in one deck ends, the other deck automatically begins playback.
  - To cancel relay playback, press the RELAY/SKIP button again (The RELAY/SKIP indicator goes out).

### NOTES:

- Relay playback can begin from either Deck I or Deck II.
- When the tape in one deck reaches the end, it automatically stops, and the tape in the other deck begins playback.
- The tape in the idle deck can be replaced during relay playback mode, allowing many tapes to be played back continuously. This is a convenient feature for parties, background music, etc.
- When this mode is selected, if the deck encounters a blank portion of tape more than 15 seconds in length, it will fast forward the tape until it encounters another recorded portion, and resume playback from that point.

### To stop playback temporarily (Deck II only)

Press the pause (■) button.

- To resume playback, either press the pause (■) button again, or press the playback (▶ or ◀) button.

### To stop playback

Press the stop (■) button of the deck which is currently playing.

## SWITCH SETTINGS FOR RELAY PLAYBACK

The playback sequence depends on the setting of the REVERSE MODE switch and on which playback (▶ or ◀) button is pressed first. The playback sequence for each of the possible selections is shown below.

- \*1 In the one-way (☐) mode, relay playback always begins from the direction indicated by the tape transport mode indicator (▶ or ◀). To change this direction, press the desired playback (▶ or ◀) button, then immediately press the stop (■) button.
- \*2 In the two-way (◁▷) and repeat (◁▷) modes, relay playback always begins from the forward direction.

- I ▶ : Deck I forward playback  
 II ▶ : Deck II forward playback  
 ∞ : Auto-reverse function  
 I ◀ : Deck I reverse playback  
 II ◀ : Deck II reverse playback  
 → : Relay

| REVERSE MODE switch | Playback button | Other deck mode | Playback sequence                                                                           |
|---------------------|-----------------|-----------------|---------------------------------------------------------------------------------------------|
| ☐                   | Deck I ▶        | II ▶            | I ▶ → II ▶                                                                                  |
| ☐                   | Deck I ▶        | II ◀            | I ▶ → II ◀                                                                                  |
| ☐                   | Deck I ◀        | II ▶            | I ◀ → II ▶                                                                                  |
| ☐                   | Deck I ◀        | II ◀            | I ◀ → II ◀                                                                                  |
| ☐                   | Deck II ▶       | I ▶             | II ▶ → I ▶                                                                                  |
| ☐                   | Deck II ▶       | I ◀             | II ▶ → I ◀                                                                                  |
| ☐                   | Deck II ◀       | I ▶             | II ◀ → I ▶                                                                                  |
| ☐                   | Deck II ◀       | I ◀             | II ◀ → I ◀                                                                                  |
| ◁▷                  | Deck I ▶        | *2              | I ▶ ∞ I ◀ → II ▶ ∞ II ◀                                                                     |
| ◁▷                  | Deck I ◀        | *2              | I ◀ ∞ I ▶ → II ◀ ∞ II ▶                                                                     |
| ◁▷                  | Deck II ▶       | *2              | II ▶ ∞ II ◀ → I ▶ ∞ I ◀                                                                     |
| ◁▷                  | Deck II ◀       | *2              | II ◀ ∞ II ▶ → I ◀ ∞ I ▶                                                                     |
| ◁▷                  | Deck I ▶        | *2              | I ▶ ∞ I ◀ → II ▶ ∞ II ◀ → I ▶ ∞ I ◀ ...<br>until both tapes are played 8 times (32 sides)   |
| ◁▷                  | Deck I ◀        | *2              | I ◀ ∞ I ▶ → II ◀ ∞ II ▶ → I ◀ ∞ I ▶ ...<br>until both tapes are played 8 times (31 sides)   |
| ◁▷                  | Deck II ▶       | *2              | II ▶ ∞ II ◀ → I ▶ ∞ I ◀ → II ▶ ∞ II ◀ ...<br>until both tapes are played 8 times (32 sides) |
| ◁▷                  | Deck II ◀       | *2              | II ◀ ∞ II ▶ → I ◀ ∞ I ▶ → II ◀ ∞ II ▶ ...<br>until both tapes are played 8 times (31 sides) |

## MUSIC SEARCH

(Skipping forward or backward to play back a desired selection)

By searching for and detecting the blank spaces between recorded selections, the music search function can skip forward or backward automatically to the beginning of designated selection and begin playing that selection. The music search function can skip forward or backward a maximum of 15 selections. The selected selection is shown on the counter indicator.

### During Forward Playback

When you wish to skip to the next selection or a later one, press the fast forward (▶▶) button as many times as the number of selections to be skipped. When you wish to listen to the current selection from the beginning, press the fast reverse (◀◀) button once. When you wish to skip to the previous selection or an earlier one, press the fast reverse (◀◀) button as many times as the number of selections to be skipped, plus one.

### During Reverse Playback

When you wish to skip to the next selection or a later one, press the fast reverse (◀◀) button as many times as the number of selections to be skipped. When you wish to listen to the current selection from the beginning, press the fast forward (▶▶) button once. When you wish to skip to the previous selection or an earlier one, press the fast forward (▶▶) button as many times as the number of selections to be skipped, plus one.

### From the Stop Mode

Press the playback (▶ or ◀) button to select the tape transport direction, then press the fast forward or fast reverse (▶▶ or ◀◀) button to perform music search as described above.

- If the button is pressed more times than the number of selections on the side, music search can continue on the other side; but ONLY if the auto reverse function operates.

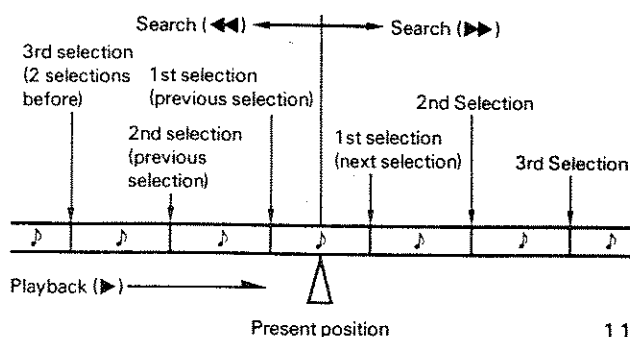
#### NOTES:

In the following cases, the music search function may be unable to properly detect blanks between selections, thus operating incorrectly. This is not, however, a sign of a deck malfunction.

- When using tapes with blanks between selections less than 4 seconds long.
- When listening to tapes with long low-level intervals; like classical music tapes; or tapes with sound breaks several seconds long within selections.
- When listening to tapes of recorded conferences or talk shows, where the sound is discontinuous.
- When using tapes with noise in the blanks between selections.

### How Selections are Counted

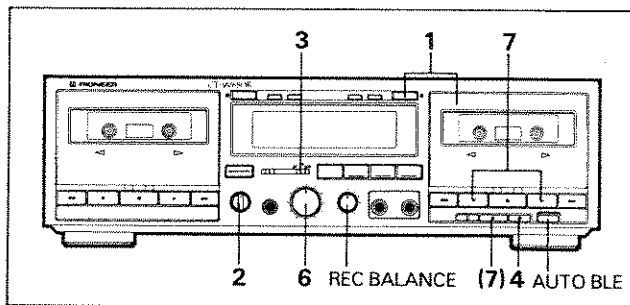
When the music search function is performed in the middle of a selection and "1st previous selection" is specified (the button is pressed once), the deck will return to the beginning of the present selection. To return to earlier selections, count the number of selections to be skipped, plus one.



## RECORDING (Deck II only)

### Erasure Prevention Tabs

The recording (●) button will not function when the erasure prevention tabs of the loaded cassette tape have been removed (see page 4). Do not press the recording (●) button with unreasonable force. When recording on both sides, make sure that both tabs are intact.



#### 1. Load a tape for recording in Deck II.

- To select AUTO BLE tuning (CT-W650R only), press the AUTO BLE button, then wait about 30 seconds until the AUTO BLE TUNED indicator appears (see page 13).

#### 2. Set the DOLBY NR switch.

#### 3. Set the REVERSE MODE switch.

- To record on one side only, set the switch to the  $\Rightarrow$  position. To record on both sides, set the switch to either the  $\Rightarrow$  or the  $\Leftarrow$  position.

#### 4. Press the recording (●) button.

#### 5. Prepare the audio source from which you wish to record. Turn on the stereo amplifier and prepare it for playback of the desired audio source.

#### 6. Adjust the recording level. For details, see "ADJUSTING THE RECORDING LEVEL" below.

#### 7. Press the playback (▶ or ◀) button or the pause (■) button to begin recording.

- When recording on both sides, press the ▶ button. If the ◀ button is pressed, recording will stop after only one side is recorded. The deck cannot switch from the reverse direction to the forward direction during recording.

### To Stop Recording Temporarily

#### Press the pause (■) button.

- To resume recording, either press the pause (■) button again, or press the playback (▶ or ◀) button.

### To Stop Recording

#### Press the stop (■) button.

## ADJUSTING THE RECORDING LEVEL

The adjustment of the recording level is the most important factor in achieving good recording results. A high level provides a good signal-to-noise ratio and dynamic range, but an excessively high level distorts the sound. If the level is set too low for fear of sound distortion, irritating tape hiss will mar the recording. The characteristics of tapes differ depending on the manufacturer and the type of tape. Set the REC LEVEL control so that the level meter's "+3 dB" indicator remains lit most of the time. No harm will be done if the "+5 dB" indicator lights momentarily at peaks. When recording without Dolby NR, set the REC LEVEL control so that the "0 dB" indicator lights, and the "+3 dB" indicator lights occasionally at peaks.

#### NOTES:

- The optimal recording level may differ somewhat, depending on the audio source and type of tape used. In order to obtain the best possible results, set the recording level after actual testing, or select AUTO BLE tuning. Listen to your recordings, and adjust the level as necessary.
- The level meter may react differently during recording and playback of the same tape. This is due to differences in tape sensitivity, and creates no problem.

### [Balancing the recording level of left (L) and right (R) channels]

Occasionally, the sound level of the audio source may not be properly balanced between channels. If the audio level of left and right channels is unequal, use the REC BALANCE control to adjust the balance.

Turning the control clockwise will lower the audio level of the left channel, and turning it counterclockwise will lower the audio level of the right channel.

## RECORDING USING MICROPHONE (CT-W650R only)

#### 1. Connect the left and right plugs of the microphone(s) to the MIC L and R jacks.

#### 2. Follow the procedure for RECORDING given above (omit step 5).

#### NOTES:

- Be sure to disconnect the microphone plugs from the MIC L/R jacks when not using the microphone for recording. Otherwise, the sound input to the INPUT jacks cannot be recorded.
- Use a commercially available one-point stereo microphone or two microphones when recording in stereo.

## RECORDING MUTE

Use this function to create the blanks between selections needed for proper operation of the music search function.

- Press the recording mute (○) button during recording and the deck will create a blank space by recording a section which contains no signal for approximately 4.5 seconds. The deck will then enter recording standby mode.
- To create a blank which is more than 4.5 seconds long, hold the button down for the desired length of time. When the button is released, the deck will enter recording standby mode.
- To resume recording, press the pause (■) button or the playback (▶ or ◀) button.

## Erasing a Tape

To erase the recorded contents of a tape, load the tape in Deck II and follow the procedure below.

- Set the REC LEVEL control to the MIN position.
- Press the recording (●) button.
- Press the playback (▶ or ◀) button or the pause (■) button.

## AUTO BLE TUNING (CT-W650R only)

### 1. Load a tape for recording in Deck II.

- Make sure that the erasure prevention tabs are intact.

### 2. Press the AUTO BLE button.

Wait approximately 30 seconds until the AUTO BLE **TUNED** indicator appears.

During this time, the deck performs the operations shown below. First, it forwards the tape for about 1 second, so that recording begins on the recordable portion of the tape. When the AUTO BLE tuning process is completed, the tape returns to its original position.

### AUTO BLE operation: (approximately 30 seconds)

| Operation                                                     | Indicator                            |                                                            |
|---------------------------------------------------------------|--------------------------------------|------------------------------------------------------------|
|                                                               | Counter indicator                    | AUTO BLE indicator                                         |
| Start<br>① Fast forward                                       | 00.00<br>(Normal counter)            | BIAS LEVEL EG                                              |
| ② Recording<br>③ Fast reverse<br>④ Playback                   | 81.95                                | BIAS LEVEL EG<br>• Adjusting recording bias.               |
| ⑤ Recording<br>⑥ Fast reverse<br>⑦ Playback                   | LEVEL                                | BIAS LEVEL EG<br>• Adjusting recording level (sensitivity) |
| ⑧ Recording<br>⑨ Fast reverse<br>⑩ Playback<br>⑪ Fast reverse | EQ                                   | BIAS LEVEL EG<br>• Adjusting recording equalizer.          |
| ⑫ Stop<br>End                                                 | 00.00<br>(Returns to normal counter) | BIAS LEVEL EG                                              |

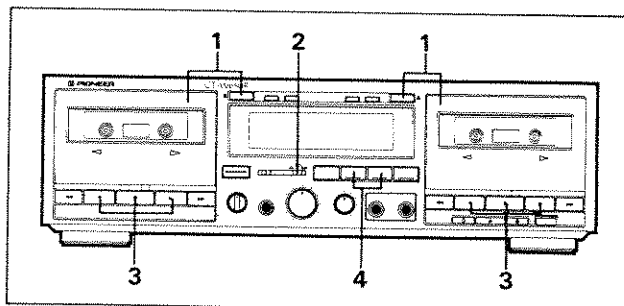
### NOTES:

- To cancel AUTO BLE tuning, press the STOP (■) button.
- Be sure to readjust AUTO BLE when using a different type of tape.
- During AUTO BLE tuning, the DOLBY NR switch may be set to either OFF, B or C.
- The AUTO BLE tuning information is lost when the power is turned off. AUTO BLE must be performed again when the power is turned back on.
- To reset the AUTO BLE tuning, press the AUTO BLE button.
- AUTO BLE tuning cannot be performed during recording, recording standby or recording mute modes.

### Error display

- If the deck reaches the end of the tape or the leader tape (white portion) during AUTO BLE operation, tuning becomes impossible. Recording will stop immediately and "Err" will flash in the counter indicator.
- The flashing "Err" display will continue to appear until one of the operation buttons is pressed.
- If "Err" flashes in the counter indicator area during AUTO BLE tuning, it indicates that the magnetic characteristics of that portion of the tape are poor (this may be caused by wrinkles, wear, dust, exposure to chemicals, etc.). If this occurs, fast forward or rewind the tape for a few seconds, then perform the AUTO BLE tuning procedure again. If "Err" appears once again, cancel the AUTO BLE tuning, or use a different tape.

## TAPE COPYING (From Deck I to Deck II)



- The tape copying function lets you copy the contents of a tape from Deck I to Deck II.
- The SYNCHRO COPY I > II buttons are used to select either normal speed copying, or high speed copying (copying at twice the normal playback speed).

### 1. Load a tape for playback into Deck I and a blank tape into Deck II.

### 2. Set the REVERSE MODE switch.

### 3. Set the tape transport direction.

- Tape copying is always performed in the direction indicated by the tape transport indicator (▶ or ◀). To change this direction, press the desired playback (▶ or ◀) button, then immediately press the stop (■) button.

### 4. Press one of the SYNCHRO COPY I > II buttons (NORMAL SPEED or HIGH SPEED).

**NORMAL SPEED:** Tape copying at normal speed, allowing you to listen to playback (COPY indicator lights).

**HIGH SPEED:** Tape copying at twice the normal speed (HI-SPEED COPY indicator lights). Playback will still be audible.

## To Stop Copying

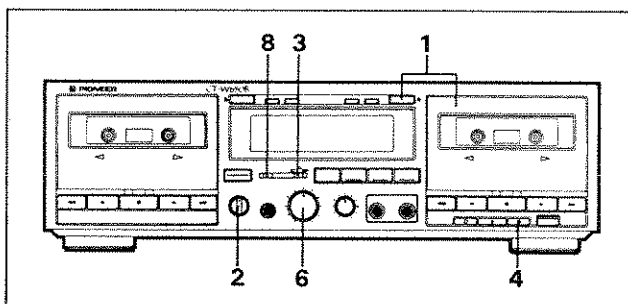
Press the stop (■) button of either deck. Both decks will stop.

### NOTES:

- If a nearby television set is on while high speed copying is being performed, a high pitched interference sound may be heard on the tape. If this occurs, either use the normal speed copying function, or turn off the television.
- The tape in Deck II will be recorded with the same Dolby NR characteristics as the tape in Deck I, regardless of the setting of the DOLBY NR switch. For example, if the original tape was recorded with Dolby C-type NR, the copy will also have Dolby C-type NR.
- During high speed copying, none of the operation buttons will function except for the stop (■) button.
- During normal speed copying, the recording mute (○) and pause (■) buttons of Deck II also function.
- Tape copying stops when either of the two tapes reach the end. Therefore it is advisable to use tapes of the same length.
- The sound quality of the copied tape will be somewhat less than that of the original. Therefore when making more than one copy, always record from the original tape (do not make a copy of a copy).
- When making tape copies, the recording level does not have to be adjusted.

## RECORDING AND PLAYBACK USING AN AUDIO TIMER

### UNATTENDED RECORDING (Deck II only)

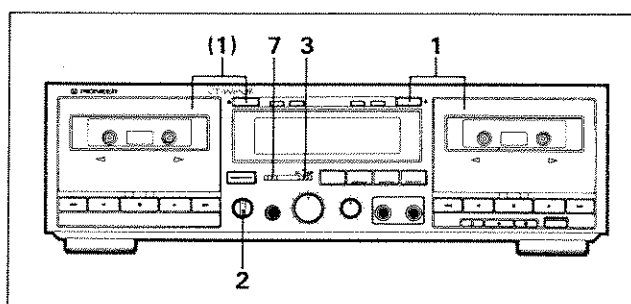


1. Load a tape for recording in Deck II.
  - Unattended recording always begins in the forward direction. Make sure that the tape is properly rewound.
2. Set the DOLBY NR switch.
3. Set the REVERSE MODE switch.
4. Press the recording (●) button.
5. Prepare the audio source.
  - Set the amplifier input selector to tuner, then tune in the desired station.
6. Adjust the recording level.
7. Set the audio timer.
  - When the timer is set, it will turn off the power of all connected components.
8. Set the TIMER MODE switch to the REC position.
  - At the preset time, the power will be turned on, and recording will begin automatically.

### NOTES:

- Unattended recording will not work if the erasure prevention tabs of the tape loaded in Deck II have been removed.
- Operations depend on the type of audio timer used: Be sure to consult the operating instructions of the audio timer you actually use.
- When not performing timer operations, set the TIMER MODE switch to the OFF position. Otherwise, recording might begin unexpectedly when the power is turned on.
- Turn down the volume of the amplifier if you do not wish to listen to the program while it is being recorded.
- AUTO BLE tuning cannot be used during unattended recording.

### WAKE-UP PLAYBACK (Deck I or Deck II)

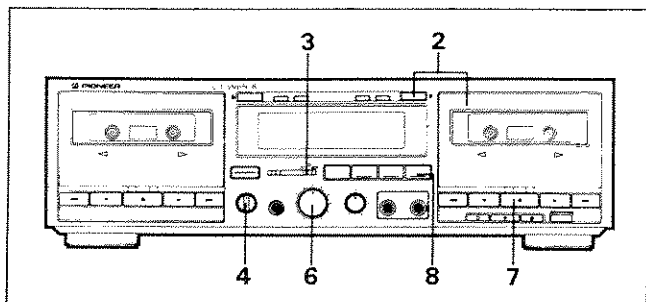


1. Load the tape(s) for playback.
  - Wake-up playback always begins in the forward direction. Make sure that the tape(s) are properly rewound.
2. Set the DOLBY NR switch.
3. Set the REVERSE MODE switch.
4. Set the stereo amplifier for tape playback.
  - Adjust the volume level by playing back a selection of the tape.
5. Rewind the tape to the position where playback is to start.
6. Set the audio timer.
  - When the timer is set, it will turn off the power of all connected components.
7. Set the TIMER MODE switch to the PLAY position.
  - At the time set on the audio timer, the power will be turned on and playback will begin automatically.

### NOTES:

- Operations depend on the type of audio timer used: Be sure to consult the operating instructions of the audio timer you actually use.
- When tapes are inserted in both Deck I and Deck II, relay playback from Deck I to Deck II will be performed when the power comes on.
- The blank skip function will operate during wake-up playback (see page 10).
- When not performing timer operations, set the TIMER MODE switch to the OFF position. Otherwise, playback might begin unexpectedly when the power is turned on.

## CD · DECK SYNCHRO RECORDING



If the CD player has a program function to determine the order of playback, program the CD player before beginning this operation.

1. **Load a compact disc in the CD player.**
2. **Load the cassette for recording in Deck II.**
  - Rewind the tape to the desired starting position.
3. **Set the REVERSE MODE switch.**
  - To record on one side only, set the switch to the  $\Rightarrow$  position. To record on both sides, set the switch to either the  $\Rightarrow$  or the  $\Leftarrow$  position.
4. **Set the DOLBY NR switch.**
5. **Press the play button of the CD player.**
6. **Adjust the recording level.**
  - See page 12.
7. **Press the stop (■) buttons of both the cassette deck and the CD player.**
  - Unless both this deck and the CD player are in stop mode, synchro recording cannot be performed.
8. **Press the CD SYNCHRO button.**
  - The cassette deck begins recording, and the CD player begins playback.

### When the compact disc finishes playing:

The CD player enters stop mode and the cassette deck enters recording standby mode. Change the disc and press the play button of the CD player to resume recording. If the CD player does not resume play within 1 minute, the cassette deck enters stop mode.

### When the CD player changes discs (twin tray or multi-play CD players):

The cassette deck enters recording standby mode, and resumes recording when the CD player begins playing the next disc. A 4.5 second blank space is automatically created between selections.

### If the end of the tape is reached while the CD player is still playing:

The CD player returns to the beginning of the currently-playing selection and then enters pause mode. To resume recording, load another tape and check the tape running indicator to ensure that the tape is moving in the desired direction. If not, press the playback (▶ or ◀) button to change the tape direction, then immediately press the stop (■) button. The tape running indicator will change direction. Synchro recording can be resumed by pressing the CD SYNCHRO button again. (The CD SYNCHRO button should be pressed within 1 minute. If more than 1 minute elapses, the CD player will enter stop mode.)

### If the auto-reverse function operates while the CD is still playing:

The CD player returns to the beginning of the current selection and enters pause mode.

A 4.5 second blank space is automatically created on the reverse side of the tape, then the CD player resumes playback and the deck resumes recording.

#### NOTES:

- Even when the CD player is connected to the amplifier with an optical fiber cable, connect the CD player to either the amplifier or this deck with pin plug input and output cords.
- Be sure to connect the deck and the CD player with the CD-DECK SYNCHRO control cord.
- Although recording begins when the CD SYNCHRO button is pressed, the CD player does not start playback until the button is released. This function can be used to advance the tape past the leader portion, or to create a blank portion on the tape.
- Only PIONEER CD players equipped with a CD-SYNCHRO control jack can be used for CD-DECK SYNCHRO recording. Any type of CD player which meets these requirements, including twin-tray or multi-play models, can be used.

# TROUBLESHOOTING

Incorrect operations are sometimes mistaken for malfunctions. If you think that there is something wrong with this deck, check the table below to see if you can correct the problem yourself. Sometimes, the trouble may be caused by another piece of equipment, or by faulty connections. If the trouble cannot be rectified even after all of the checks below have been performed, contact your nearest PIONEER authorized dealer, or the place of purchase.

| SYMPTOM                                                                  | CAUSE                                                                                                                                                                                                                                        | REMEDY                                                                                                                                                                                        |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>POWER</b>                                                             |                                                                                                                                                                                                                                              |                                                                                                                                                                                               |
| The power does not go on.                                                | <ul style="list-style-type: none"> <li>The power cord is unplugged.</li> <li>The component (amplifier, timer, etc.) to which the cord is attached is off.</li> </ul>                                                                         | <ul style="list-style-type: none"> <li>Insert the power cord correctly.</li> <li>Turn the stereo amplifier or audio timer on.</li> </ul>                                                      |
| <b>CASSETTE DOOR</b>                                                     |                                                                                                                                                                                                                                              |                                                                                                                                                                                               |
| The door does not open.                                                  | <ul style="list-style-type: none"> <li>The deck is not in stop mode.</li> <li>Power was turned off with the tape moving.</li> </ul>                                                                                                          | <ul style="list-style-type: none"> <li>Press the stop (■) button.</li> <li>Turn power on.</li> </ul>                                                                                          |
| The door does not close.                                                 | <ul style="list-style-type: none"> <li>The cassette is not properly loaded.</li> </ul>                                                                                                                                                       | <ul style="list-style-type: none"> <li>Reinsert the cassette.</li> </ul>                                                                                                                      |
| <b>PLAYBACK</b>                                                          |                                                                                                                                                                                                                                              |                                                                                                                                                                                               |
| The tape stops immediately.                                              | <ul style="list-style-type: none"> <li>The tape is completely wound.</li> <li>The tape is slack.</li> </ul>                                                                                                                                  | <ul style="list-style-type: none"> <li>Playback in opposite direction.</li> <li>Rewind the tape.</li> <li>Take up slack (see page 4).</li> </ul>                                              |
| The level meter does not work.                                           | <ul style="list-style-type: none"> <li>The tape is not recorded.</li> <li>The tape heads are dirty.</li> </ul>                                                                                                                               | <ul style="list-style-type: none"> <li>Replace the tape with a recorded one.</li> <li>Clean the heads (see page 3).</li> </ul>                                                                |
| There is no sound.                                                       | <ul style="list-style-type: none"> <li>The amplifier input selector is not set properly.</li> <li>The amplifier volume is too low.</li> <li>There are connection problems (wrong connection, poor contact, broken wire.)</li> </ul>          | <ul style="list-style-type: none"> <li>Set the input selector to select the deck.</li> <li>Turn up the volume.</li> <li>Check all connections (see page 5).</li> </ul>                        |
| <b>RECORDING</b>                                                         |                                                                                                                                                                                                                                              |                                                                                                                                                                                               |
| The recording indicator does not light.                                  | <ul style="list-style-type: none"> <li>The erasure prevention tabs are removed.</li> </ul>                                                                                                                                                   | <ul style="list-style-type: none"> <li>Replace the cassette with one whose tabs are intact, or cover the hole with a piece of tape (see page 4).</li> </ul>                                   |
| The level meter does not work.                                           | <ul style="list-style-type: none"> <li>The REC LEVEL control is set too low.</li> <li>The amplifier is not delivering a signal to the deck.</li> <li>There are connection problems (wrong connection, poor contact, broken wire).</li> </ul> | <ul style="list-style-type: none"> <li>Turn the REC LEVEL up (see page 12).</li> <li>Set the amplifier to select the recorded signal.</li> <li>Check all connections (see page 5).</li> </ul> |
| The tape stops immediately.                                              | <ul style="list-style-type: none"> <li>The tape is completely wound.</li> <li>The tape is slack.</li> </ul>                                                                                                                                  | <ul style="list-style-type: none"> <li>Recording in opposite direction.</li> <li>Rewind the tape.</li> <li>Take up slack (see page 4).</li> </ul>                                             |
| The tape cannot be recorded.                                             | <ul style="list-style-type: none"> <li>The tape heads are dirty.</li> </ul>                                                                                                                                                                  | <ul style="list-style-type: none"> <li>Clean the heads (see page 3).</li> </ul>                                                                                                               |
| <b>POOR SOUND QUALITY</b>                                                |                                                                                                                                                                                                                                              |                                                                                                                                                                                               |
| The sound is unstable or interrupted.                                    | <ul style="list-style-type: none"> <li>The heads, pinch rollers and capstans are dirty.</li> <li>The tape is not uniformly wound.</li> </ul>                                                                                                 | <ul style="list-style-type: none"> <li>Clean the heads, etc. (see page 3).</li> <li>Fast forward or rewind the tape completely.</li> </ul>                                                    |
| There are no high frequencies.                                           | <ul style="list-style-type: none"> <li>A tape recorded without Dolby NR is being played back with the DOLBY NR switch set to B or C position.</li> <li>The heads are dirty.</li> </ul>                                                       | <ul style="list-style-type: none"> <li>Set the DOLBY NR switch to OFF.</li> <li>Clean the heads (see page 3).</li> </ul>                                                                      |
| High frequencies are emphasized.                                         | <ul style="list-style-type: none"> <li>A Dolby NR tape is being played back with the DOLBY NR switch set to OFF.</li> </ul>                                                                                                                  | <ul style="list-style-type: none"> <li>Set the DOLBY NR switch to the same positions used for recording.</li> </ul>                                                                           |
| The sound from previous recordings remains when the tape is re-recorded. | <ul style="list-style-type: none"> <li>The heads are dirty.</li> </ul>                                                                                                                                                                       | <ul style="list-style-type: none"> <li>Clean the heads (see page 3).</li> </ul>                                                                                                               |
| The sound is distorted.                                                  | <ul style="list-style-type: none"> <li>The recording level is too high.</li> <li>The recorded signal itself is distorted.</li> <li>The heads are dirty.</li> </ul>                                                                           | <ul style="list-style-type: none"> <li>Turn the REC LEVEL control down (see page 12).</li> <li>Replace the cassette tape.</li> <li>Clean the heads (see page 3).</li> </ul>                   |

| SYMPTOM                                                            | CAUSE                                                                                                                                                                                                                                    | REMEDY                                                                                                                                                                                                                                                                                           |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| There is too much noise.                                           | <ul style="list-style-type: none"> <li>• A noisy tape is being used.</li> <li>• There is a faulty connection.</li> <li>• The recording level is too low.</li> <li>• The heads are dirty.</li> <li>• The heads are magnetized.</li> </ul> | <ul style="list-style-type: none"> <li>• Replace the cassette tape.</li> <li>• Check all connections (see page 5).</li> <li>• Turn the REC LEVEL control up (see page 12).</li> <li>• Clean the heads (see page 3).</li> <li>• Demagnetize the head with a demagnetizer (see page 3).</li> </ul> |
| <b>OTHER</b>                                                       |                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                  |
| The music search function does not operate properly.               | <ul style="list-style-type: none"> <li>• The blanks between selections are less than 4 seconds long.</li> </ul>                                                                                                                          | <ul style="list-style-type: none"> <li>• Use a tape with blanks between selections of at least 4 seconds.</li> </ul>                                                                                                                                                                             |
| Recording or playback starts suddenly when the power is turned on. | <ul style="list-style-type: none"> <li>• The TIMER MODE switch is set to PLAY or REC.</li> </ul>                                                                                                                                         | <ul style="list-style-type: none"> <li>• Set TIMER MODE switch to OFF.</li> </ul>                                                                                                                                                                                                                |
| The system remote control does not operate.                        | <ul style="list-style-type: none"> <li>• Remote control cord is not connected.</li> </ul>                                                                                                                                                | <ul style="list-style-type: none"> <li>• Connect remote control cord properly (see page 5).</li> </ul>                                                                                                                                                                                           |
| CD-DECK SYNCHRO recording cannot be carried out.                   | <ul style="list-style-type: none"> <li>• The CD-DECK SYNCHRO control cord and Input/Output cords are not connected.</li> <li>• The cassette tape accidental erasure prevention tabs are removed.</li> </ul>                              | <ul style="list-style-type: none"> <li>• Connect correctly (see page 5).</li> <li>• Replace the cassette with one whose tabs are intact (see page 4).</li> </ul>                                                                                                                                 |
| The CD SYNC indicator is off during CD-DECK SYNCHRO recording.     | <ul style="list-style-type: none"> <li>• The tape ran out during the CD-DECK SYNCHRO mode.</li> <li>• After the deck entered recording standby mode, more than 1 minute elapsed before the CD player resumed playback.</li> </ul>        | <ul style="list-style-type: none"> <li>• Replace the tape with a longer one.</li> <li>• Change the disc and press the CD SYNCHRO button again.</li> </ul>                                                                                                                                        |

# SPECIFICATIONS

|                                                 |                                              |
|-------------------------------------------------|----------------------------------------------|
| System.....                                     | 4-track, 2-channel stereo                    |
| Heads.....                                      | "Hard permalloy" recording/playback head × 1 |
|                                                 | "Hard permalloy" playback head × 1           |
|                                                 | "Ferrite" erasing head × 1                   |
| Motors.....                                     | DC servo motor × 2                           |
|                                                 | DC reel motor × 2                            |
| Wow and Flutter                                 |                                              |
| U.K. and European models.....                   | No more than 0.055% (WRMS)                   |
|                                                 | No more than ±0.16% (DIN)                    |
| Other models.....                               | No more than 0.10% (WRMS)                    |
| Fast Winding Time.....                          | Approx. 90 seconds (C-60 tape)               |
| Frequency Response (at — 20 dB recording level) |                                              |
| [CT-W650R]                                      |                                              |
| Metal Tape.....                                 | 20 to 19,000 Hz                              |
| Chrome Tape.....                                | 20 to 18,000 Hz                              |
| Normal Tape.....                                | 20 to 17,000 Hz                              |
| [CT-W550R]                                      |                                              |
| Metal Tape.....                                 | 20 to 19,000 Hz                              |
| Chrome Tape.....                                | 20 to 18,000 Hz                              |
| Normal Tape.....                                | 20 to 17,000 Hz                              |
| Signal-to-Noise Ratio                           |                                              |
| Dolby NR off.....                               | More than 57 dB                              |
| Noise Reduction Effect                          |                                              |
| Dolby B-type NR ON.....                         | More than 10 dB (at 5 kHz)                   |
| Dolby C-type NR ON.....                         | More than 19 dB (at 5 kHz)                   |
| Harmonic Distortion.....                        | No more than 0.8% (at 0 dB)                  |
| Input (Sensitivity)                             |                                              |
| LINE (INPUT).....                               | 63 mV (input impedance 68 k $\Omega$ )       |
| MIC (CT-W650R only).....                        | 0.4 mV                                       |
| Output (Reference level)                        |                                              |
| LINE (OUTPUT).....                              | 316 mV (Output impedance 3.1 k $\Omega$ )    |
| Headphones (PHONES).....                        | 0.25 mW (Output impedance 8 $\Omega$ )       |

## Miscellaneous

|                                 |                                             |
|---------------------------------|---------------------------------------------|
| Power requirements              |                                             |
| U.S., Canadian model.....       | AC 120 V, 60 Hz                             |
| U.K. and Australian models..... | AC 230—240 Volts ~, 50/60 Hz                |
| European model.....             | AC 220—230 Volts ~, 50/60 Hz                |
| Multi-voltage model.....        | AC 110 V/120 V—127 V/220 V/240 V            |
|                                 | (switchable), 50/60 Hz                      |
| Power consumption               |                                             |
| [CT-W650R]                      |                                             |
| U.S., Canadian model.....       | 26 W                                        |
| Other models.....               | 26 W                                        |
| [CT-W550R]                      |                                             |
| U.S., Canadian model.....       | 26 W                                        |
| Other models.....               | 26 W                                        |
| Dimensions                      |                                             |
| [CT-W550R U.S., Canadian model] |                                             |
| .....                           | 420 (W) × 123 (H) × 268 (D) mm              |
|                                 | 16-9/16 (W) × 4-13/16 (H) × 10-9/16 (D) in. |
| [Other models]                  |                                             |
| .....                           | 420 (W) × 128 (H) × 268 (D) mm              |
|                                 | 16-9/16 (W) × 5-1/16 (H) × 10-9/16 (D) in.  |
| Weight                          |                                             |
| [CT-W650R].....                 | 4.7 kg (10 lbs. 6 oz.)                      |
| [CT-W550R].....                 | 4.6 kg (10 lbs. 2 oz.)                      |

## Accessories

|                                     |   |
|-------------------------------------|---|
| Operating instructions.....         | 1 |
| Connection cord with pin plugs..... | 2 |
| Remote control cord.....            | 1 |
| CD-DECK SYNCHRO control cord.....   | 1 |

## Features

- AUTO BLE tuning system (CT-W650R only)
- DOLBY HX PRO recording function
- DOLBY B/C type NR
- Music search over ±15 selections
- Synchronized copy start
- High-speed and normal-speed copy (Deck I → Deck II)
- Relay playback/blank skip
- 4-digit electronic tape/time counter
- Microphone jacks (CT-W650R only)
- Peak level meter with peak-hold function
- MPX FILTER (interlocks with Dolby NR switch)
- Automatic recording mute
- Automatic tape selectors
- System remote control available
- Timer recording
- Timer playback (Automatic relay on)
- CD-DECK SYNCHRO function
- Headphones jack
- Automatic reverse

### NOTE:

Specifications and design subject to possible modifications without notice due to improvements.